In the United States Patent and Trademark Office on Appeal from the Examiner to the Board of Patent Appeals and Interferences

In re Application of:	Rohit (nmi) Dewan
U.S. Patent Serial No.:	10/028,383
Filing Date:	December 20, 2001
Examiner:	Quynh H. Nguyen
Group Art Unit:	2642
Title:	SELECTIVE CONVERSATION RECORDING USING SPEECH HEURISTICS

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Appeal Brief

Appellant has appealed to the Board of Patent Appeals and Interferences ("Board") from the decision of the Examiner mailed April 21, 2005, finally rejecting all pending Claims 1-32. Appellant filed a Notice of Appeal on August 22, 2005, with the statutory fee of $500.00.

Real Party In Interest

This Application is currently owned by Cisco Technology, Inc. as indicated by:

an Assignment recorded on December 20, 2001 from the inventor, Rohit Dewan to Cisco Technology, Inc., in the Assignment Records of the PTO at Reel 012422, Frame 0980 (3 pages).

Related Appeals and Interferences

To the knowledge of Appellant's counsel, there are no known interferences or judicial proceedings that will directly affect or be directly affected by or have a bearing on the Board's decision regarding this Appeal.

Status of Claims

Claims 1-32 are pending in this Application, stand rejected pursuant to a Final Office Action mailed April 21, 2005 ("Final Office Action"), and are all presented for appeal. All pending claims are shown in Appendix A, attached hereto, along with an indication of the status of those claims.

Status of Amendments

All amendments submitted by Appellant have been entered by the Examiner. The Examiner indicated in the Advisory Action mailed July 18, 2005 ("Advisory Action"), that the amendments presented in the Response to the Final Office Action have been entered. (Advisory Action, page 2.)

Summary of Claimed Subject Matter

The present invention relates to the selective handling and recording of telephone conversations. (Page 1, lines 2-3.) Specifically, a signal characteristic of a conversation may be monitored. (Page 7, lines 11-14.) A base value defining a threshold range is determined from the monitored signal characteristic. (Page 7, lines 22-30.) If a subsequent value for the signal characteristic falls outside of the threshold range, appropriate action may be taken. (Page 8, lines 7-11.)

FIGURE 1 illustrates the conventional connection established between a customer 100 and a call center 104 during a telephone call and an exemplary placement of the present invention within a call center 104. The customer 100 is connected to a call center 104 through the public telephone network 102. The public telephone network 102 is commonly known to those skilled in the art. The call center 104 may include a telephone switch or hub 106, one or more operators 108, and one or more monitoring and recording devices 110. (Page 6, lines 2-12.)

FIGURE 2 illustrates one exemplary embodiment of the present invention. The monitoring and recording device 110 is connected such that it can monitor the speech signals from both a customer 100 and an operator 108 when they are connected in a telephone conversation. The monitoring and recording device 110 also includes a speech analyzer 200, controller circuit 202 and a recording and storage device 204. The controller circuit 202 can be a general purpose computer, a microcontroller, ASIC, FPGA, EEPROM, ROM, RAM, any combination thereof, or any other circuit which can be used to control the other components of monitoring and recording device 104. Alternatively, the functional aspects of the controller circuit 202 may be integrated into either the speech analyzer 200 or the recording and storage device 304 for simplicity of design. The recording and storage device 204 can include any means for recording and storing audio data, including but not limited to tape, computer-readable memory, hard disk, and magnetic-optical drive. (Page 6, line 13 through page 7, line 2.)

In operation, a telephone call is first connected between the operator 108 and the customer 100. The call may be initiated by either the operator 108 or the customer 100. Using conventional methods, the telephone switch 106 is used to route a customer call to one or more operators 108 within the call center 104. (Page 7, lines 3-8.)

FIGURE 3 is a flowchart illustrating the operation of an exemplary embodiment of the present invention. Once the telephone call is connected at block 300, the speech analyzer 200 detects the signal on the line and prompts the recording and storage device 204 to begin recording the conversation at block 302. This prompt can either be sent directly by the speech analyzer 200 to the recording and storage device 204, or indirectly, by the prompting controller circuit 202 which then would send a command to the recording and storage device 204, i.e., the controller circuit 202 knows that line is connected and prompts the speech analyzer 200 to begin analyzing and tells the recording and storage device 204 to start recording. At block 304, during an initial period thereafter, the controller circuit 202 and the speech analyzer 200 work in conjunction to establish base values to identify signal characteristics typical for the conversation. Once the base values are established, the system continues to monitor the conversation for deviations in the amplitude and/or frequency values falling outside of a threshold range, defined by the base values plus or minus a calculated or predetermined value. At block 308, the system determines whether a trigger event is detected. If the speech signals never deviate outside of the threshold range, i.e., no triggering event is detected, once the call terminates in a normal fashion, the recording of the conversation may be deleted at block 308 by the recording and storage device 204. If the signals do exceed the threshold range at any point during the conversation, i.e., a triggering event is detected at block 306, the controller circuit 202 at block 310 takes appropriate actions, as described more fully below. (Page 7, line 9 through page 8, line 11.)

In accordance with an exemplary embodiment of the present invention, once a triggering event is detected, the controller circuit 202 may mark the recording of the conversation and command the recording and storage device 204 to save the call for future review. Additionally, detection of a triggering event may generate an alert to the call center supervisor or supervisor's station. The controller circuit 202 transmits a report of the event

and related identification data to the supervisor via computer network or other some other conventional data transmission method. The alert contains information such as the identity and location of the call operator 108 and the type of event detected. Moreover, the supervisor could be given the option to "snoop" the call, which would allow the supervisor to listen to the conversation, or to take over the call altogether, by transferring the call from the operator's telephone to the supervisor's station, e.g., telephone. (Page 8, lines 12-29.)

Other embodiments may also be employed through modification of the base system of FIG 2. One alternative is to change the physical placement of the monitoring and recording device 110 within the call center 104. Rather than including one monitoring and recording device 110 at each operator's station 108, one alternative is to utilize one multi-port monitoring and recording device connected at the call center telephone switch 106. This multi-port monitoring and recording device located at the telephone switch 106 has the equivalent functionality of a plurality of monitoring and recording devices 110, and would be capable of monitoring several different lines and recording the data on each at any given time. It would have easy access to all incoming and outgoing communications at the call center 104. This centralized placement may provide benefits in terms of installation and maintenance of the system. (Page 9, lines 1-17.)

FIGURE 4 shows another exemplary embodiment of the present invention, where a monitoring and recording device 406 is used in an Internet Protocol (IP) telephony environment. The system is structurally similar to the previously described exemplary embodiment of FIGURE 2. In the exemplary embodiment of FIGURE 4, IP server 402 connects to a plurality of operator IP telephones 404. An operator IP telephone 404 can be a stand-alone IP telephone device, an IP softphone implemented on a general purpose computer, or any other means for IP voice communication. Also connected to the server 402 is an IP monitoring and recording device 406, or plurality thereof. The system operates in a similar manner to the monitoring and recording device 110 of FIGURE 2, but there are differences in the implementation. In this system, there is no single point to which the monitoring and recording device 406 can be connected in order to monitor the conversation. Instead, the monitoring and recording device 406 may be attached to the network and

assigned its own IP address. Data traffic from calls between an operator and a customer must be routed to the IP monitoring and recording device 406. This can be done in several ways. One way is to force the operator IP telephone device 404 to forward all data, both received from the customer end and transmitted by the operator IP telephone device 404, to the IP monitoring and recording device 406. This would ensure that the IP monitoring and recording device 406 received all relevant data packets and therefore a full voice data stream from each party for monitoring and storage. (Page 9, line 18 through page 10, line 17.)

In another exemplary embodiment, the IP voice data could be routed to the IP monitoring and recording device 406 using an alternative method. Rather than requiring the operator telephone device 404 to forward the data to the IP monitoring and recording device 406, the system could automatically create a conference call with the IP monitoring and recording device 406 every time an operator connects with an outside customer. The IP address of the IP monitoring and recording device 406 could be included automatically as part of the conference call, thereby ensuring that the IP monitoring and recording device 406 receives the speech data from both parties. Once a system is implemented which routes the data to the IP monitoring and recording device 406, the system would function in much the same way as its analog counterpart described above, the only necessary change being different equipment used to perform the speech analysis and the use of a network protocol, e.g., Transmission Control Protocol/Internet Protocol (TCP/IP). (Page 10, line 18 through page 11, line 6.)

With regard to the independent claims currently under Appeal, Appellant provides the following concise explanation of the subject matter recited in the claim elements. For brevity, Appellant does not necessarily identify every portion of the Specification and drawings relevant to the recited claim elements. Additionally, this explanation should not be used to limit Appellant's claims but is intended to assist the Board in considering the Appeal of this Application.

For example, independent Claim 1 recites the following:

A monitoring and recording system (*e.g.*, Figure 1; Figure 2; page 6, lines 14-20; Figure 4), said system comprising:

a speech analyzer, said speech analyzer monitoring a signal characteristic of a conversation between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude (*e.g.*, Figure 2; page 7, lines 11-30);

a recording device, said recording device recording said conversation (*e.g.*, Figure 2; page 6, line 28 through page 7, line 2; page 7, lines 11-14; page 8, lines 2-7);

a controller (*e.g.*, Figure 2; page 6, lines 20-28; page 7, line 14 through page 8, line 29), said controller determining whether a parameter of said conversation exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range (*e.g.*, page 7, lines 22-30);

establishing whether a subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

determining that the parameter of the conversation exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

a storage device, said storage device storing said conversation during said conversation and retaining said stored conversation after termination of said conversation if said parameter of said conversation exceeds said threshold (*e.g.*, Figure 2; page 6, line 28 through page 7, line 2; page 7, lines 11-14; page 8, lines 2-7).

As another example, independent Claim 8 recites the following:

A monitoring and recording system for recording and selectively storing speech signals (*e.g.*, Figure 1; Figure 2; page 6, lines 14-20; Figure 4), said system comprising:

a speech analyzer, said speech analyzer monitoring a signal characteristic of at least one signal between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude (*e.g.*, Figure 2; page 7, lines 11-30);

a controller (*e.g.*, Figure 2; page 6, lines 20-28; page 7, line 14 through page 8, line 29) operable to determine whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range (*e.g.*, page 7, lines 22-30);

establishing whether a subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

a recording and storage device, said recording and storage device recording and selectively storing said at least one signal in response to the controller determining that the parameter of the at least one signal exceeds a threshold (*e.g.*, Figure 2; page 6, line 28 through page 7, line 2; page 7, lines 11-14; page 8, lines 2-7).

As another example, independent Claim 15 recites the following:

A monitoring and recording system for selectively notifying (*e.g.*, Figure 1; Figure 2; page 6, lines 14-20; Figure 4), said system comprising:

a speech analyzer, said speech analyzer monitoring a signal characteristic of at least one signal between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude (*e.g.*, Figure 2; page 7, lines 11-30);

a controller (*e.g.*, Figure 2; page 6, lines 20-28; page 7, line 14 through page 8, line 29) operable to determine whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range (*e.g.*, page 7, lines 22-30);

establishing whether a subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30);

a recording and storage device, the recording and storage device recording and selectively storing the at least one signal in response to the controller determining that the parameter of the at least one signal exceeds a threshold (*e.g.*, Figure 2; page 6, line 28 through page 7, line 2; page 7, lines 11-14; page 8, lines 2-7); and

a notification device, said notification device selectively sending a notification in response to said monitoring of said speech analyzer (*e.g.*, page 8, lines 16-24).

As another example, independent Claim 21 recites the following:

A monitoring and recording system for recording and selectively storing speech signals (*e.g.*, Figure 1; Figure 2; page 6, lines 14-20; Figure 4), said system comprising:

means for monitoring and analyzing a signal characteristic of at least one signal between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude (*e.g.*, Figure 2; page 7, lines 11-30);

means for determining whether a parameter of the at least one signal exceeds a threshold (*e.g.*, Figure 2; page 6, lines 20-28; page 7, line 14 through page 8, line 29) by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range (*e.g.*, page 7, lines 22-30);

establishing whether a subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

means for recording and selectively storing said at least one signal in response to determining that the parameter of the at least one signal exceeds a threshold (*e.g.*, Figure 2; page 6, line 28 through page 7, line 2; page 7, lines 11-14; page 8, lines 2-7).

As another example, independent Claim 22 recites the following:

A method for monitoring and selectively recording a conversation (*e.g.*, Figure 3), said method comprising:

receiving a conversation from a first caller (*e.g.*, page 7, lines 11-14);

monitoring a signal characteristic of said conversation between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude (*e.g.*, page 7, lines 14-30);

recording said conversation (*e.g.*, page 7, lines 11-14);

determining whether a parameter of said conversation exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range (*e.g.*, page 7, lines 22-30);

establishing whether a subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

determining that the parameter of the conversation exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

storing said conversation during said conversation and retaining said stored conversation after termination of said conversation if said parameter of said conversation exceeds said threshold (*e.g.*, page 6, line 28 through page 7, line 2; page 7, lines 11-14; page 8, lines 2-7).

As another example, independent Claim 25 recites the following:

A method for monitoring and recording speech signals and selectively storing and notifying in response to said monitoring (*e.g.*, Figure 3), said method comprising:

receiving at least one signal (*e.g.*, page 7, lines 11-14);

monitoring a signal characteristic of said at least one signal based upon changes in at least one of frequency and amplitude of said at least one signal, the signal characteristic comprising at least one of a signal frequency and a signal amplitude (*e.g.*, page 7, lines 14-30);

determining whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range (*e.g.*, page 7, lines 22-30);

establishing whether a subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

selectively sending a trigger in response to determining that the parameter of the at least one signal exceeds a threshold (*e.g.*, page 8, lines 1-29).

As another example, independent Claim 32 recites the following:

Logic encoded in a memory device to monitor and record speech signals and selectively store and notify in response to said monitoring (*e.g.*, Figure 3), comprising logic operable to at least:

receive at least one signal (*e.g.*, page 7, lines 11-14);

monitor a signal characteristic of said at least one signal based upon changes in at least one of frequency and amplitude of said at least one signal, the signal characteristic comprising at least one of a signal frequency and a signal amplitude (*e.g.*, page 7, lines 14-30);

determining whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range (*e.g.*, page 7, lines 22-30);

establishing whether a subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range (*e.g.*, page 7, lines 26-30); and

selectively send a trigger in response to determining that the parameter of the at least one signal exceeds a threshold (*e.g.*, page 8, lines 1-29).

Grounds of Rejection to be Reviewed on Appeal

1.   Are Claims 1-32 patentable over the Examiner's proposed combination of U.S. Patent No. 6,542,602 to Elazar ("*Elazar*") and U.S. Patent No. 6,363,145 to Shaffer et al. ("*Shaffer*") under 35 U.S.C. § 103(a)?

Grouping of Claims

Appellant has made an effort to group claims to reduce the burden on the Board. In the Argument section of this Appeal Brief, where appropriate, Appellant presents arguments as to why particular claims subject to a ground of rejection are separately patentable from other claims subject to the same ground of rejection. To reduce the number of groups and thereby reduce the burden on the Board, Appellant does not individually argue every claim that recites patentable distinctions over the references cited by the Examiner, particularly in light of the clear allowability of Appellant's independent claims.

The claims of each group provided below may be deemed to stand or fall together for purposes of this Appeal.

With regard to the ground of rejection identified as issue 1 above, the claims subject to that ground of rejection may be grouped together as follows for purposes of this Appeal:

1. Group 1 may include Claims 1, 3-8, 10-15, 17-22, 24-29, and 31; and
2. Group 2 may include Claims 2, 9, 16, 23, and 30.

Argument

I.   The Claims are Patentable over the Proposed *Elazar-Shaffer* Combination

Claims 1-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the *Elazar-Shaffer* combination. A copy of *Elazar* is attached as Appendix B, and a copy of *Shaffer* is attached as Appendix C. Appellant respectfully submits that the Examiner's proposed *Elazar-Shaffer* combination fails to support the obviousness rejections of these claims. Appellant respectfully submits that these rejections are therefore improper and should be reversed by the Board.

A.   Standard

The question raised under 35 U.S.C. § 103 is whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art at the time of the invention. *See* 35 U.S.C. § 103(a). Accordingly, even if all elements of a claim are disclosed in various prior art references, which is certainly not the case here as discussed below, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill in the art at the time of the invention would have been prompted to modify the teachings of a reference or combine the teachings of multiple references to arrive at the claimed invention.

The M.P.E.P. sets forth the strict legal standard for establishing a *prima facie* case of obviousness based on modification or combination of prior art references. "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references where combined) must teach or suggest all the claim limitations." M.P.E.P. § 2142, 2143. The teaching, suggestion or motivation for the modification or combination and the reasonable expectation of success must both be found in the prior art and

cannot be based on an Appellant's disclosure. *See Id.* (citations omitted). "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art" at the time of the invention. M.P.E.P. § 2143.01. Even the fact that references *can* be modified or combined does not render the resultant modification or combination obvious unless the prior art teaches or suggests the desirability of the modification or combination. *See Id.* (citations omitted). Moreover, "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. All words in a claim must be considered in judging the patentability of that claim against the prior art." M.P.E.P. § 2143.03 (citations omitted).

The governing Federal Circuit case law makes this strict legal standard even more clear.[1] According to the Federal Circuit, "a showing of a suggestion, teaching, or motivation to combine or modify prior art references is an essential component of an obviousness holding." *In re Sang-Su Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000)). "Evidence of a suggestion, teaching, or motivation . . . may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved." *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). However, the "range of sources available ... does not diminish the requirement for actual evidence." *Id.* Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." *In re Mills*, 916 F.2d at 682, 16 U.S.P.Q.2d at 1432. *See also In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (holding a *prima facie* case of obviousness not made where the combination of the references taught every element of the claimed invention but did not provide a motivation to combine); *In Re Jones*, 958 F.2d 347, 351, 21 U.S.P.Q.2d 1941, 1944 (Fed. Cir. 1992) ("Conspicuously missing from this record is any evidence, other than the PTO's speculation (if that can be called evidence) that one of ordinary skill in the herbicidal art would have been motivated to make the modification of the prior art salts

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[1] Note M.P.E.P. 2145 X.C. ("The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references.").

necessary to arrive at" the claimed invention.). Even a determination that it would have been obvious to one of ordinary skill in the art at the time of the invention to try the proposed modification or combination is not sufficient to establish a *prima facie* case of obviousness. *See In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1599 (Fed. Cir. 1988).

In addition, the M.P.E.P. and the Federal Circuit repeatedly warn against using an Appellant's disclosure as a blueprint to reconstruct the claimed invention. For example, the M.P.E.P. states, "The tendency to resort to 'hindsight' based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art." M.P.E.P. § 2142. The governing Federal Circuit cases are equally clear. "A critical step in analyzing the patentability of claims pursuant to [35 U.S.C. § 103] is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. ... Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher.'" *In re Kotzab*, 217 F.3d 1365, 1369, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000) (citations omitted). In *In re Kotzab*, the Federal Circuit noted that to prevent the use of hindsight based on the invention to defeat patentability of the invention, the court requires the Examiner to show a motivation to combine the references that create the case of obviousness. *See id. See also, e.g., Grain Processing Corp. v. American Maize-Products*, 840 F.2d 902, 907, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988). Similarly, in *In re Dembiczak*, the Federal Circuit reversed a finding of obviousness by the Board, explaining that the required evidence of such a teaching, suggestion, or motivation is essential to avoid impermissible hindsight reconstruction of an applicant's invention:

> Our case law makes clear that the best defense against the subtle but powerful attraction of hind-sight obviousness analysis is *rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references*. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a

blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.

175 F.3d at 999, 50 U.S.P.Q.2d at 1617 (emphasis added) (citations omitted).

B.   The Elazar Reference

Elazar discloses a call monitoring method and apparatus. (*Elazar*, Abstract.) The method includes: a) receiving a CTI [Computer Telephony Integration] datum associated with a telephone call between an agent and a party, b) determining whether the telephone call is to be recorded by determining whether the CTI datum meets at least one predefined monitoring condition, and, if so, c) recording at least a portion of the telephone call. (*Elazar*, column 1, lines 43-51.)

According to *Elazar*, the predefined monitoring conditions be given as:

1.   telephone numbers of customers who should or should not be monitored;

2.   specific data fields on display 22 (FIG. 1) that, when data are entered into the fields, signal that the call is to be monitored;

3.   a table of agent scores and the monitoring frequency for each score level;

4.   a table of agent skills and the monitoring frequency for each skill;

5.   words that, when spoken during a telephone call, signal that the call is to be monitored (e.g., obscenities);

6.   words that, when not spoken during a telephone call, signal that the call is to be monitored (e.g., "please" and "thank you");

7.   a table of speech rates and the monitoring frequency for each speech rate;

8.   a table of word counts and the monitoring frequency for different word counts; and

9.   CTI data, including business information gathered regarding the calling or called party. (*Elazar*, column 7, line 56 through column 8, line 9.)

That is, *Elazar* uses a ***predefined monitoring condition*** to determine whether to monitor a call. The predefined monitoring conditions may be given as telephone numbers, words, speech rates, or word counts.

C.   *The Shaffer Reference*

Shaffer discloses a method and system for automated silent call monitoring in an automatic call distributor (ACD) environment. The call monitoring involves configuring a set of call performance profiles that include voice data patterns that are descriptive of voice data transmissions during an ACD call and which are associated with substandard agent performance. (*Shaffer*, Abstract.)

Specifically, *Shaffer* discloses a method and system for call monitoring where a voice data pattern of call is compared to thresholds configured prior to the call. According to *Shaffer*, a method for automated silent call monitoring includes the step of configuring call performance profiles. Each call performance profile includes a voice data pattern that is descriptive of a characteristic of poor agent service during an ACD call with a customer, and at least one corresponding voice data pattern threshold that represents the maximum number of times the voice data pattern may be detected within a predetermined time interval before a notification procedure will be executed. (*Shaffer*, column 6, line 66-column 7, line 7.)

The method also includes establishing a first call between a first ACD agent terminal and a customer phone. A DSP monitors the first call to detect any of the voice data patterns, and the DSP records detected voice data patterns into a memory. A comparison processor determines whether the number of recorded voice data pattern detections for any of the voice data patterns exceeds a threshold. (*Shaffer*, column 7, lines 25-32.)

That is, *Shaffer* discloses first configuring call performance profiles that include voice data pattern thresholds. Then, a call is established and monitored, and voice data patterns are compared to the thresholds. Thus, in *Shaffer*, *the thresholds are determined prior to establishing and monitoring the call.*

D.   The Proposed Elazar-Shaffer Combination Fails to Disclose, Teach, or Suggest the Elements Recited in Appellant's Claims

Claims 1-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of *Elazar* and *Shaffer* as proposed by the Examiner. Appellant respectfully submits, however, that Claims 1-32 are clearly patentable over the proposed *Elazar-Shaffer* combination. Appellant respectfully submits that these rejections are, therefore, improper and should be reversed by the Board.

1.   Group 1 (Claims 1, 3-8, 10-15, 17-22, 24-29, and 31)

Appellant respectfully submits that the combination of *Elazar* and *Shaffer* as proposed by the Examiner fails to disclose, teach, or suggest elements specifically recited in Claims 1, 3-8, 10-15, 17-22, 24-29, and 31. For example, the proposed *Elazar-Shaffer* combination fails to disclose, teach, or suggest "determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range," "establishing whether a subsequent value for the signal characteristic is outside of the threshold range," and "determining that the parameter of the conversation exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range," recited in independent Claim 1. Independent Claims 8, 15, 21, 22, 25, and 32 recite certain substantially similar elements.

Elazar uses **predefined monitoring conditions** to determine whether to monitor a call. *Elazar*, however, **does not determine any base values** representing typical values for a monitored signal characteristic. Thus, *Elazar* **can not use base values** to define a threshold range that is used to determine whether to monitor a call.

Shaffer discloses first configuring call performance profiles that include voice data pattern thresholds. Then, a call is established and monitored, and voice data patterns are compared to the thresholds. Thus, in *Shaffer*, **the thresholds are determined prior to establishing and monitoring the call.** *Shaffer*, however, **does not determine any base values**

representing typical values for a monitored signal characteristic. Thus, *Shaffer can not use base values* to define a threshold range that is used to determine whether to monitor a call.

Accordingly, neither *Elazar* nor *Shaffer* disclose, teach, or suggest "determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range," "establishing whether a subsequent value for the signal characteristic is outside of the threshold range," and "determining that the parameter of the conversation exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range," recited in independent Claim 1 and similarly recited in independent Claims 8, 15, 21, 22, 25, and 32.

For at least these reasons, Appellant respectfully submits that the proposed *Elazar-Shaffer* combination fails to disclose, teach, or suggest each and every limitation recited in independent Claims 8, 15, 21, 22, 25, and 32 and their respective dependent claims. For at least these reasons, Appellant respectfully submits that the rejection of Claims 1, 3-8, 10-15, 17-22, 24-29, and 31 is improper and should be reversed by the Board.

2. Group 2 (Claims 2, 9, 16, 23, and 30)

Appellant respectfully submits that *Elazar*, even when considered in combination with *Shaffer*, fails to disclose, teach, or suggest elements specifically recited in dependent Claims 2, 9, 16, 23, and 30. For example, *Elazar* fails to disclose, teach, or suggest a speech analyzer that monitors a signal characteristic comprising at least one of a signal frequency and a signal amplitude, "wherein said speech analyzer analyzes variations in at least one frequency of said conversation," as recited in Claim 2. Claims 9, 16, 23, and 30 recite certain substantially similar elements.

In the Final Office Action, the Examiner argues that the passage of *Elazar* at column 8, lines 4-7 disclose the recited claim language. The *Elazar* passage, however, *discloses a frequency designating how often a characteristic is to be monitored, but not a signal frequency.*

Elazar discloses:

> A scheduler 36 provides event manager 32 with scheduling information stored in schedule database 38. The scheduling information may include:
>
> ...
>
> 7.   a table of speech rates and the monitoring frequency for each speech rate;
>
> 8.   a table of word counts and the monitoring frequency for different word counts.

(*Elazar*, column 7, lines 43-45; column 8, lines 4-7.) That is, *Elazar* discloses a frequency designating how often a speech rate is to be monitored, and a frequency designating how often a word count is to be monitored.

Elazar, however, fails to disclose, teach, or suggest monitoring *a signal frequency*. Moreover, *Elazar* fails to disclose, teach, or suggest analyzing *variations in a signal frequency*. Accordingly, *Elazar*, fails to disclose, teach, or suggest a speech analyzer that monitors a signal characteristic comprising at least one of a signal frequency and a signal amplitude, "wherein said speech analyzer analyzes variations in at least one frequency of said conversation" as recited in Claim 2 and similarly recited in Claims 9, 16, 23, and 30.

For at least these reasons, Appellant respectfully submits that the proposed *Elazar-Shaffer* combination fails to disclose, teach, or suggest each and every limitation recited in Claims 2, 9, 16, 23, and 30. For at least these reasons, Appellant respectfully submits that the rejection of Claims 2, 9, 16, 23, and 30 is improper and should be reversed by the Board.

Conclusion

Appellant has demonstrated that the present invention, as claimed, is clearly distinguishable over the prior art cited by the Examiner. Therefore, Appellant respectfully requests the Board to reverse the final rejections and instruct the Examiner to issue a Notice of Allowance with respect to all pending claims.

Appellant encloses a check in the amount of $500 for filing this brief in support of an appeal. Although Appellant believes that no other fees are due, the Commissioner is hereby authorized to charge any fees or credit any overpayment to Deposit Account No. 02-0384 of Baker Botts, L.L.P.

Respectfully submitted,

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Appendix A

IN THE CLAIMS:

1.   (Previously Presented)   A monitoring and recording system, said system comprising:

a speech analyzer, said speech analyzer monitoring a signal characteristic of a conversation between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude;

a recording device, said recording device recording said conversation;

a controller, said controller determining whether a parameter of said conversation exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range;

establishing whether a subsequent value for the signal characteristic is outside of the threshold range; and

determining that the parameter of the conversation exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range; and

a storage device, said storage device storing said conversation during said conversation and retaining said stored conversation after termination of said conversation if said parameter of said conversation exceeds said threshold.

2.   (Original)   The system of Claim 1, wherein said speech analyzer analyzes variations in at least one frequency of said conversation.

3.   (Previously Presented)   The system of Claim 1, wherein said speech analyzer analyzes variations in amplitude of said conversation.

4.   (Original)   The system of Claim 1, wherein said recording device comprises one of a hard drive, a tape recorder, random access memory, dynamic random access memory, flash memory, and a magnetic-optical drive.

5.   (Original) The system of Claim 1, wherein said storage device comprises one of a hard drive, a tape recorder, random access memory, dynamic random access memory, flash memory, and a magnetic-optical drive.

6.   (Original) The system of Claim 1 further comprising a telephone switch, said telephone switch routing said conversation to said second caller.

7.   (Original) The system of Claim 1 further comprising a network hub, said network hub routing said conversation to said second caller.

8.	(Previously Presented)	A monitoring and recording system for recording and selectively storing speech signals, said system comprising:

a speech analyzer, said speech analyzer monitoring a signal characteristic of at least one signal between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude;

a controller operable to determine whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range;

establishing whether a subsequent value for the signal characteristic is outside of the threshold range; and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range; and

a recording and storage device, said recording and storage device recording and selectively storing said at least one signal in response to the controller determining that the parameter of the at least one signal exceeds a threshold.

9.	(Original)	The system of Claim 8 wherein said speech analyzer analyzes variations in at least one frequency of said at least one signal.

10.	(Previously Presented)	The system of Claim 8 wherein said speech analyzer analyzes variations in amplitude of said at least one signal.

11.	(Original)	The system of Claim 8 wherein said recording and storage device comprises one of a hard drive, a tape recorder, random access memory, dynamic random access memory, flash memory, and a magnetic-optical drive.

12.	(Previously Presented)	The system of Claim 8 wherein said controller triggering said recording and storage device to store said at least one signal in response to said monitoring of said speech analyzer.

13.   (Original) The system of Claim 8 further comprising a telephone switch, said telephone switch routing said at least one signal to said second caller.

14.   (Original) The system of Claim 8 further comprising a network hub, said network hub routing said at least one signal to said second caller.

15.   (Previously Presented)   A monitoring and recording system for selectively notifying, said system comprising:

a speech analyzer, said speech analyzer monitoring a signal characteristic of at least one signal between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude;

a controller operable to determine whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range;

establishing whether a subsequent value for the signal characteristic is outside of the threshold range; and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range;

a recording and storage device, the recording and storage device recording and selectively storing the at least one signal in response to the controller determining that the parameter of the at least one signal exceeds a threshold; and

a notification device, said notification device selectively sending a notification in response to said monitoring of said speech analyzer.

16.   (Original)   The system of Claim 15, wherein said speech analyzer analyzes variations in at least one frequency of said at least one signal.

17.   (Previously Presented)   The system of Claim 15, wherein said speech analyzer analyzes variations in amplitude of said at least one signal.

18.   (Original)   The system of Claim 15 further comprising a supervisor station, said supervisor station receiving said notification sent by said notification device.

19.   (Original)   The system of Claim 18, wherein said supervisor station comprises one of a general purpose computer and telephone.

20.   (Original)   The system of Claim 15, wherein said notification device comprises at least one of a transmitter, general purpose computer, an IP device, and an alarm.

21.   (Previously Presented) A monitoring and recording system for recording and selectively storing speech signals, said system comprising:

means for monitoring and analyzing a signal characteristic of at least one signal between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude;

means for determining whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range;

establishing whether a subsequent value for the signal characteristic is outside of the threshold range; and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range; and

means for recording and selectively storing said at least one signal in response to determining that the parameter of the at least one signal exceeds a threshold.

22.   (Previously Presented) A method for monitoring and selectively recording a conversation, said method comprising:

receiving a conversation from a first caller;

monitoring a signal characteristic of said conversation between a first caller and a second caller, the signal characteristic comprising at least one of a signal frequency and a signal amplitude;

recording said conversation;

determining whether a parameter of said conversation exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range;

establishing whether a subsequent value for the signal characteristic is outside of the threshold range; and

determining that the parameter of the conversation exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range; and

storing said conversation during said conversation and retaining said stored conversation after termination of said conversation if said parameter of said conversation exceeds said threshold.

23.   (Original) The method of Claim 22, wherein said determining whether a parameter of said conversation exceeds a threshold comprises analyzing variations in at least one frequency of said conversation.

24.   (Previously Presented) The method of Claim 22, wherein said determining whether a parameter of said conversation exceeds a threshold comprises analyzing variations in amplitude of said conversation.

25.   (Previously Presented) A method for monitoring and recording speech signals and selectively storing and notifying in response to said monitoring, said method comprising:

receiving at least one signal;

monitoring a signal characteristic of said at least one signal based upon changes in at least one of frequency and amplitude of said at least one signal, the signal characteristic comprising at least one of a signal frequency and a signal amplitude;

determining whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range;

establishing whether a subsequent value for the signal characteristic is outside of the threshold range; and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range; and

selectively sending a trigger in response to determining that the parameter of the at least one signal exceeds a threshold.

26.   (Original) The method in Claim 25 further comprising selectively storing said recording of said at least one signal in response to said trigger.

27.   (Original) The method in Claim 25 further comprising sending a notification in response to said trigger.

28.   (Original) The method of Claim 25 further comprising receiving said at least one signal for said monitoring routed through a switch.

29.   (Original) The method of Claim 25 further comprising receiving said at least one signal for said monitoring routed through a network hub.

30.   (Original) The method of Claim 25 wherein said monitoring comprises analyzing variations in at least one frequency of said at least one signal.

31.   (Original)   The method of Claim 25 wherein said monitoring comprises analyzing variations in amplitude of said at least one signal.

32.   (Previously Presented)   Logic encoded in a memory device to monitor and record speech signals and selectively store and notify in response to said monitoring, comprising logic operable to at least:

receive at least one signal;

monitor a signal characteristic of said at least one signal based upon changes in at least one of frequency and amplitude of said at least one signal, the signal characteristic comprising at least one of a signal frequency and a signal amplitude;

determining whether a parameter of the at least one signal exceeds a threshold by:

determining a base value from the monitored signal characteristic, the base value representing a typical value for the monitored signal characteristic, the base value defining a threshold range;

establishing whether a subsequent value for the signal characteristic is outside of the threshold range; and

determining that the parameter of the at least one signal exceeds the threshold if the subsequent value for the signal characteristic is outside of the threshold range; and

selectively send a trigger in response to determining that the parameter of the at least one signal exceeds a threshold.

Appendix B

Appendix C

Appendix D

Evidence Appendix

Other than the references attached to this Appeal Brief as Appendices B-C, no evidence was submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132, and no other evidence was entered by the Examiner and relied upon by Appellant in the Appeal.

Appendix E

Related Proceedings Appendix

As stated on page 3 of this Appeal Brief, to the knowledge of Appellant's Counsel, there are no known appeals, interferences, or judicial proceedings that will directly affect or be directly affected by or have a bearing on the Board's decision regarding this Appeal.